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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
AUGHENBAUGH, WALTER				
ART UNIT		PAPER NUMBER		
1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/580,194

Applicant(s)

KUHMANN ET AL.

Examiner

WALTER B. AUGHENBAUGH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 1-4 and 6-13 in the Amendment filed May 6, 2008 have been received and considered by Examiner.
2. The amendment made in the abstract in the Amendment filed May 6, 2008 has been received and considered by Examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation that one of the sublayers of the inner layer is adhesion modified (implying that only one sublayer is adhesion modified) is contradictory to the claim language of claim 1 because claim 1 require that the inner layer consists of “a polypropylene molding composition” and a heat stabilizer: if the inner layer consists of “a polypropylene molding composition” (i.e. one polypropylene molding composition), it cannot comprise two different polypropylene molding compositions, which is implied by the language of claim 4 (which recites that one of the sublayers of the inner layer is adhesion modified). Clarification and/or correction is required.

Claim Rejections - 35 USC § 103

5. Claims 1-5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflieger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584).

In regard to claim 1, Pfleger teaches a coolant line comprising an outer layer comprising a polyamide molding composition (col. 1, line 66–col. 2, line 6) and an inner layer consisting of a polyolefin molding composition (col. 2, lines 7–13). Polypropylene homopolymers fall within the scope of the “non-halogenated homopolyolefins” taught at col. 2, line 8 (since polypropylene homopolymers are “non-halogenated homopolyolefins”, and since Pfleger mentions polypropylene as an example of a homopolyolefin at col. 2, lines 36–37). Pfleger teaches that the polymers of the individual layers can be modified by additives to assist processing or application such as stabilizers (col. 2, lines 41–45). Since the additives mentioned at col. 2, lines 41–45 are all optional, embodiments where the inner layer of Pfleger consists of the polyolefin molding composition and the stabilizer fall within the scope of the teachings of Pfleger.

Pfleger fails to explicitly teach that the relative amount of the stabilizer in the inner layer is at least 0.02% by weight.

Jacoby et al., however, disclose a polypropylene composition for plastic articles that is stabilized with a stabilizer composition that is present in an amount of 0.18 wt. % (col. 13, lines 30–43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a stabilizer in the composition of the inner layer in the tube of Pfleger in an amount of 0.18 wt. % (an amount that is greater than the claimed minimum of 0.02 wt. %) since an amount of 0.18 wt. % is a well known relative amount of stabilizer to use in a polypropylene composition for plastic articles as taught by Jacoby et al.

In regard to claim 2, Pflieger teaches that the coolant line comprises an intermediate layer that corresponds to the claimed bonding layer (col. 1, lines 58-65 and col. 2, lines 7-13).

In regard to claim 3, the polyolefins (which includes polypropylene as discussed above in regard to claim 1) of the inner layer of Pflieger that contain functional groups which produce compatibility with the external layer correspond to the claimed adhesion-modified inner layer (col. 2, lines 7-13). Alternatively, the inner layer of Pflieger is adhesion-modified in the instance when it is in contact with either the intermediate layer of Pflieger or the outer layer of Pflieger, because one of these layers is bonded to the inner layer, making the inner layer “adhesion-modified”.

In regard to claim 4, the intermediate layer of Pflieger corresponds to the claimed sublayer that is “adhesion-modified” (col. 1, lines 58-65 and col. 2, lines 7-13).

In regard to claim 5, Pflieger teaches a coolant line comprising an outer layer comprising a polyamide molding composition (col. 1, line 66-col. 2, line 6) and an inner layer consisting of a polyolefin molding composition (col. 2, lines 7-13). Polypropylene homopolymers fall within the scope of the “non-halogenated homopolyolefins” taught at col. 2, line 8 (since polypropylene homopolymers are “non-halogenated homopolyolefins”, and since Pflieger mentions polypropylene as an example of a homopolyolefin at col. 2, lines 36-37). Pflieger teaches that the polymers of the individual layers can be modified by additives to assist processing or application such as stabilizers (col. 2, lines 41-45). Since the additives mentioned at col. 2, lines 41-45 are all optional, embodiments where the inner layer of Pflieger consists of the polyolefin molding composition and the stabilizer fall within the scope of the teachings of Pflieger.

Pfleger fails to explicitly teach that the relative amount of the stabilizer in the inner layer is at least 0.02% by weight and that the stabilizer is a sterically hindered phenol or a sulfur compound.

Jacoby et al., however, disclose a polypropylene composition for plastic articles that is stabilized with a stabilizer composition that comprises a sterically hindered phenol (a "hindered phenol"), where the stabilizer composition is present in an amount of 0.18 wt. % (col. 13, lines 30-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a stabilizer comprising a hindered phenol as the stabilizer of the inner layer of Pfleger since a stabilizer comprising a hindered phenol is a well known stabilizer for polypropylene compositions for plastic articles as taught by Jacoby et al., and to have used the stabilizer in an amount of 0.18 wt. % (an amount that is greater than the claimed minimum of 0.02 wt. %) since an amount of 0.18 wt. % is a well known relative amount of stabilizer to use in a polypropylene composition for plastic articles as taught by Jacoby et al.

In regard to claim 12, Pfleger teaches that the coolant line is at least partially corrugated (col. 1, lines 35-42).

Claim Rejections - 35 USC § 103

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584) and in view of Dupuy et al. (USPN 7,238,738).

Pfleger and Jacoby et al. teach the line as discussed above in regard to claim 1. Pfleger teaches that the inner layer is inert to the conveyed medium (i.e. that the inner layer is a barrier layer col. 1, lines 53-56).

Pfleger and Jacoby et al. fail to explicitly teach that the inner layer comprises the from 0.1 to 50 % by weight of a nanosize filler.

Dupuy et al. teaches a thermoplastic material (such as polypropylene, col. 2, line 48) that has high barrier property due to the inclusion of a nanosize filler in the thermoplastic material (col. 1, lines 7-13). Since the inner layer of the line of Pfleger is a barrier layer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a nanosize filler in typical filler amounts (such as less than 50% by weight) in the polypropylene composition of the line taught by Pfleger and Jacoby et al. in order to improve the barrier property of the line since inclusion of a nanosize filler in a thermoplastic composition such as polypropylene improves the barrier property of the composition as taught by Dupuy et al.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584) and in view of Ebner et al. (USPN 6,433,087).

Pfleger and Jacoby et al. teach the line as discussed above in regard to claim 1.

Pfleger and Jacoby et al. fail to explicitly teach that the inner layer comprises a metal deactivator.

Ebner et al., however, disclose a polypropylene tube that comprises a heat stabilizer and a metal deactivator, which are both characterized by Ebner et al. as “the usual additives” for polypropylene molding compositions of polypropylene tubes (col. 4, lines 15-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a metal deactivator in the

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polypropylene composition of the line taught by Pfleger and Jacoby et al. since metal deactivator is a typical additive to polypropylene molding compositions of polypropylene tubes as taught by Ebner et al.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584) and in view of Strebel et al. (USPN 7,375,162).

Pfleger and Jacoby et al. teach the line as discussed above in regard to claim 1.

In regard to claim 8, Pfleger teaches that copolyolefins are a suitable material for the inner layer (col. 2, lines 7-13).

Pfleger and Jacoby et al. fail to explicitly teach that the polypropylene of the inner layer has a melt flow rate of from 0.1 to 3 g/10 min.

Strebel et al., however, disclose a composition comprising a propylene-ethylene copolymer having a melt flow rate of 2 g/10 min (col. 7, lines 40-55 and col. 9, line 66-col. 10, line 14) for hoses, tubing and automotive applications (col. 1, lines 33-36 and col. 5, lines 4-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the propylene-ethylene copolymer having a melt flow rate of 2 g/10 min of Strebel et al. as the copolyolefin of Pfleger since propylene-ethylene copolymer having a melt flow rate of 2 g/10 min is a suitable material for use for hoses, tubing and automotive applications as taught by Strebel et al.

9. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584) and in view of Johoji et al. (USPN 6,562,907).

In regard to claim 9, while Pfleger teaches that copolyolefins are a suitable material for the inner layer (col. 2, lines 7-13), Pfleger and Jacoby et al. fail to explicitly teach that the polypropylene of the inner layer is a heterophase copolymer of propene and ethene.

Johoji et al., however, disclose a vehicle part such as a hose, tube or fuel tank (col. 26, lines 47-53), that comprises a polypropylene composition having suitable impact resistance that comprises a propylene-ethylene copolymer comprising from 7 to 85 % by weight ethylene (col. 14, line 52-col. 15, line 3). Therefore, one of ordinary skill in the art would have recognized to have used a propylene-ethylene copolymer as the copolyolefin of the inner layer of the tube taught by Pfleger and Jacoby et al. since propylene-ethylene copolymer comprising from 7 to 85 % by weight ethylene is a well known suitable copolyolefin for use as the material of a inner layer of a tube/fuel tank due to its suitable impact resistance as taught by Johoji et al.

In regard to claim 10, Pfleger, Jacoby et al. and Johoji et al. teach the line as discussed above in regard to claim 9. While Johoji et al. teach that the propylene-ethylene copolymer comprises from 7 to 85 % by weight ethylene (col. 14, line 52-col. 15, line 3), Johoji et al. fail to specifically teach that the amount of ethylene is at least 0.5 % by weight and not more than 20% by weight. However, since Johoji et al. teach that the vehicle part has suitable impact resistance, one of ordinary skill in the art would have recognized to have varied the amount of relative amount of ethylene in the propylene-

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ethylene copolymer in order to achieve the desired impact resistance depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

In regard to claim 11, Pflieger, Jacoby et al. and Johoji et al. teach the line as discussed above in regard to claim 9. Pflieger teaches that the inner layer is inert to the conveyed medium (i.e. that the inner layer is a barrier layer col. 1, lines 53-56).

Pflieger, Jacoby et al. and Johoji et al. fail to explicitly teach that the inner layer has a thickness of at least 0.3 mm. However, since Pflieger teaches that the inner layer is a barrier layer, one of ordinary skill in the art would have recognized to have varied the thickness of the inner layer in order to achieve the desired degree of barrier property depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pflieger (USPN 5,706,864) in view of Jacoby et al. (USPN 5,310,584) and in view of Iwata et al. (USPN 7,232,597).

Pflieger and Jacoby et al. teach the line as discussed above in regard to claim 12.

Pflieger and Jacoby et al. fail to explicitly teach that the corrugated pipe has a smooth inner layer.

Iwata et al., however, disclose a corrugated tube (col. 1, lines 5-10) that has high mechanical strength, high flexibility and a high flexural resistance (col. 1, lines 33-36 and col. 8, lines 23-27) and that comprises a flat (smooth) inner layer (col. 1, lines 37-41 and col. 2, lines 45-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have corrugated the tube taught by Pflieger and Jacoby et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube as taught by Iwata et al. and to have added a flat (smooth) inner layer to the tube since it is well known to add a flat (smooth) inner layer to a corrugated tube in order to render the inner surface of the corrugated tube flat (smooth) as taught by Iwata et al.

Response to Arguments

11. Applicant's arguments regarding the 35 U.S.C. 102 and 103 rejections of the claims are moot due to the withdrawal of these rejections in this Office Action due to Applicant's amendments.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Walter B Aughenbaugh /
Examiner, Art Unit 1794

8/03/08

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1794